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PATENT

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: )  
)  
Masayuki YABUTA et al ) Group Art Unit: To Be Assigned  
)  
Application Number: To Be Assigned ) Examiner: To Be Assigned  
)  
Filed: January 10, 2002 )  
)  
International Application No. PCT/JP01/03909 )  
Filed: May 10, 2001 )  
)  
For: METHODS FOR REDUCING THE FORMATION OF BYPRODUCTS IN THE  
PRODUCTION OF RECOMBINANT POLYPEPTIDES

PRELIMINARY AMENDMENT

Commissioner for Patents  
Washington, D.C. 20231

Sir:

Prior to examination of the above-referenced application, which is a national phase application of PCT/JP01/03909, filed May 10, 2001, please enter the following preliminary amendment.

IN THE CLAIMS:

Please replace claims 3, 6, and 7 with the following claims, provided in a clean format in accordance with 37 C.F.R. § 1.121.

3. (Amended) The method as defined in Claim 9 or 10 wherein the host cell is a prokaryotic cell or an eukaryotic cell.

6. (Amended) The method as defined in any one of Claims 9 and 10 wherein the molecular weight of the polypeptide comprising a serine residue is about 1000 to 2000.

7. (Amended) The method as defined in any one of Claims 9 and 10 wherein the polypeptide comprising a serine residue is an atrial natriuretic peptide.

Please cancel Claims 1 and 2 and replace with the following new claim:

--9. (New) A method for reducing formation of a byproduct polypeptide comprising an O-acetylserine residue in place of a serine residue, comprising culturing, in a medium, host cells transformed to produce a recombinant polypeptide comprising a serine

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residue and adding to said medium at least one of histidine, methionine or glycine in an amount effective to reduce said byproduct formation.

--10. (New) A method for producing a polypeptide comprising a serine residue comprising culturing transformed host cells in a medium and adding at least one of histidine, methionine or glycine to the medium in an amount effective to reduce formation of a byproduct polypeptide comprising an O-acetylserine residue in place of a serine residue.

--11. (New) A culture medium comprising:

(i) a host cell transformed to recombinantly express a polypeptide comprising a serine residue;

(ii) at least one of histidine, methionine or glycine added to the medium in an amount effective to reduce formation of a byproduct polypeptide comprising O-acetylserine residue in place of a serine residue.--

A marked-up version of the claims, showing the changes Applicants have made are in Appendix A.

#### REMARKS

Applicants believe that no new matter is introduced in the filing of this Preliminary Amendment. Applicants respectfully request examination of the above-named application in view of the present amendments.

Respectfully submitted,

HUNTON & WILLIAMS

January 10, 2002

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APPENDIX A  
VERSION OF CLAIMS WITH MARKINGS

In accordance with 37 C.F.R. § 1.121(c), Applicants submit a marked-up version of the claims, in order to indicate changes Applicants have made.

Please cancel Claims 1 and 2 and replace with the following new claim:

1. Cancel
2. Cancel
3. (Amended) The method as defined in Claim 9 [1] or 10 [2] wherein the host cell is a prokaryotic cell or an eukaryotic cell [in a method for producing a polypeptide containing a serine residue by culturing transformed cells].
4. The method as defined in Claim 3 wherein the host cell is a microorganism.
5. The method as defined in Claim 4 wherein the microorganism is *Escherichia coli*.
6. (Amended) The method as defined in any one of Claims 9 and 10 [1 to 5] wherein the molecular weight of the polypeptide comprising [containing] a serine residue is about 1000 to 2000.
7. (Amended) The method as defined in any one of Claims 9 and 10 [1 to 6] wherein the polypeptide comprising [containing] a serine residue is an atrial natriuretic peptide.
8. The method as defined in Claim 7 wherein the atrial natriuretic peptide is human atrial natriuretic peptide.
- 9. (New) A method for reducing formation of a byproduct polypeptide comprising an O-acetylserine residue in place of a serine residue, comprising culturing, in a medium, host cells transformed to produce a recombinant polypeptide comprising a serine residue and adding to said medium at least one of histidine, methionine or glycine in an amount effective to reduce said byproduct formation.
- 10. (New) A method for producing a polypeptide comprising a serine residue comprising culturing transformed host cells in a medium and adding at least one of

histidine, methionine or glycine to the medium in an amount effective to reduce formation of a byproduct polypeptide comprising an O-acetylserine residue in place of a serine residue.

--11. (New) A culture medium comprising:

(i) a host cell transformed to recombinantly express a polypeptide comprising a serine residue;

(ii) at least one of histidine, methionine or glycine added to the medium in an amount effective to reduce formation of a byproduct polypeptide comprising O-acetylserine residue in place of a serine residue.--

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